**Office of Research and Development/Region 2 Cooperative Effort: Evaluating *Cryptosporidium* and *Giardia* in Urban Stormwater**

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Since the first identified *Cryptosporidium* outbreak in the United Kingdom in 1983, the pathogens *Cryptosporidium* and *Giardia* have become the subject of growing local, state, and national concern. Both organisms have been the causative agent of many gastrointestinal illnesses from the consumption of contaminated surface or ground water in the United States within the last decade. Outbreaks attributed to cryptosporidiosis have occurred in Texas, Pennsylvania, and Georgia. One of the most famous is the massive Milwaukee, WI, outbreak of 1993 that affected over 400,000 people.

The purpose of this cooperative effort between the ORD and the U.S. Environmental Protection Agency (U.S. EPA) Region 2 is to determine the concentrations of *Cryptosporidium* and *Giardia* in stormwater runoff. The results of the study will be used to assist in estimating the amount of *Cryptosporidium* and *Giardia* from stormwater discharges to receiving waters. The data will also be useful to drinking water treatment plants located downstream of where stormwater discharges occur during times of wet weather. This is crucial in determining the potential concentration of these parasites in treatment plant intake. A secondary objective is to determine the method variability and cyst/oocyst recoveries when analyzing stormwater. U.S. EPA Method 1623 is used for *Cryptosporidium* and *Giardia* analysis. Six indicator organisms (total coliform, fecal coliform, *E. coli*, Enterococcus, fecal streptococcus, *Clostridium perfringens*) and several physical and chemical parameters are being analyzed in unison to further describe the sample. Four stormwater outfall sites were sampled and analyzed for *Cryptosporidium* and *Giardia* during two storm events. Sample locations are classified by the United States Geological Survey (USGS) as high-density residential (65% impervious), low-density residential (17% impervious), landscaped/commercial and industrial (85% impervious) where approximately 15% of the total area is vegetated, and wooded area with nearly 100% pervious land cover.